Consolidated Health Informatics

Standards Adoption Recommendation

Multimedia

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1. **Part I – Sub-team & Domain Scope Identification** – Basic information defining the team and the scope of its investigation.

2. **Part II – Standards Adoption Recommendation** – Team-based advice on standard to adopt.

3. **Part III – Adoption & Deployment Information** – Supporting information gathered to assist with deployment of the standard (may be partial).

Summary

Domain: Multimedia

Standards Adoption Recommendation:
None: Work to continue in CHI Phase II

SCOPE
The primary application of this standard is for combining data from multiple media (e.g., images, photos, audios, videos, faxes, etc.) into patient records with the objective of ensuring interoperability and information exchange among federal agencies. This standard is useful throughout the federal healthcare system which employs a wide variety of medical records and patient information systems.

RECOMMENDATION
None. Work to continue in Phase II of CHI.

OWNERSHIP
-NA-

APPROVALS AND ACCREDITATIONS
-NA-

ACQUISITION AND COST
-NA-

Part I – Team & Domain Scope Identification

Target Vocabulary Domain

Common name used to describe the clinical/medical domain or messaging standard requirement that has been examined.
Multimedia information in patient records

Describe the specific purpose/primary use of this standard in the federal health care sector (100 words or less)
The primary application of this standard is for combining data from multiple media (e.g., images, photos, audios, videos, faxes, etc.) into patient records with the objective of ensuring interoperability and information exchange among federal agencies. This standard is useful throughout the federal healthcare system which employs a wide variety of medical records and patient information systems.

Sub-domains *Identify/dissect the domain into sub-domains, if any. For each, indicate if standards recommendations are or are not included in the scope of this recommendation.*

Domain/Sub-domain	In-Scope (Y/N)
Incorporation of multimedia information into patient records:	**Y**
Images	**Y**
Audio information	**Y**
Waveform data	**Y**
Video information	**Y**

Information Exchange Requirements (IERs) *Using the table at appendix A, list the IERs involved when using this vocabulary.*

Care Management Information
Improvement Strategy
Population Member Health Data
Body of Health Services Knowledge
Resource Availability

Team Members *Team members' names and agency names with phone numbers.*

Name	Agency/Department
William Heetderks, Co-lead	**Department of Health and Human Services, National Institutes of Health/NIBIB**
Richard Swaja, Co-lead	**Department of Health and Human Services, National Institutes of Health/NIBIB**
Anne Altemus	Department of Health and Human Services, National Institutes of Health/NLM
Alicia Bradford, Project Support	Centers for Medicare and Medicaid Services
Lewis Berman	Department of Health and Human Services, Centers for Disease Control
Ruth Dayhoff	Department of Veterans Affairs, Veterans Health Administration
Michael Henderson	Department of Veterans Affairs, Veterans Health Administration
Peter Kuzmak	Department of Veterans Affairs, Veterans Health Administration
Randy Levin	Department of Health and Human Services, Food and Drug Administration
Nancy Orvis	Department of Defense, TRICARE Management Facility
Alan Smith	Department of Defense, TRICARE Management Facility
Wesley Wei	Centers for Medicare and Medicaid Services

Work Period *Dates work began/ended.*

Start	End
October 30, 2003	January, 2004 (Phase I)

Part II – Standards Adoption Recommendation

Recommendation *Identify the solution recommended.*

No specific standard recommendation made in this first phase of CHI. Although, the workgroup identified many components that will help guide the work needed for CHI Phase II.

In the development of a recommendation, the fundamental requirements considered for representing multimedia objects in electronic patient health records included (1) that the objects stored in the patient records are uniquely identifiable persistent entities and (2) that the objects contain patient study, study component, examination, equipment, unique identification, and other information (e.g., date, creator, body part, etc.) as attributes and metadata in addition to the objects themselves.

The following items are recommended for future consideration and research support to address issues related to multimedia patient information:

1. Standards committee collaborations – As the standards continue to develop, it is recommended that the DICOM® and HL7® committees (and others as appropriate) work together to harmonize their standards for healthcare applications.
2. Time to incorporate industry standards – Consideration should be given to providing support for reducing the time between implementation of industry standards and incorporation into federal standards.
3. Long-term storage and retrieval of information – Consideration is necessary to account for problems associated with the "migration" of information among media bases and are partly due to rapidly changing information technologies.
4. Unique identifiers – Assignment of unique identifiers should be supported in the Integrating the Healthcare Enterprise (IHE) Initiative to provide harmony with DICOM®, HL7® and other standards.
5. Computer system firewalls – For biomedical information exchange between agencies, issues of computer system security and firewalls are often a larger hindrance to effortless communication than are the use of different data standards within agencies. Additional research is needed to develop secure data systems that remain open to exchange of large data sets from the outside.

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Ownership Structure *Describe who "owns" the standard, how it is managed and controlled.*

-NA-

Summary Basis for Recommendation *Summarize the team's basis for making the recommendation (300 words or less).*

-NA-

Conditional Recommendation *If this is a conditional recommendation, describe conditions upon which the recommendation is predicated.*

-NA-

Approvals & Accreditations

Indicate the status of various accreditations and approvals:

Approvals & Accreditations	Yes/Approved	Applied	Not Approved

Options Considered *Inventory solution options considered and summarize the basis for not recommending the alternative(s). SNOMED must be specifically discussed.*

DICOM® – Digital Imaging and Communications in Medicine (DICOM)
SNOMED CT®
DIG35
IEEE ™ 1073
IHE – Integrating the Healthcare Enterprise (IHE) initiatives
Health Level Seven® (HL7®)

Current Deployment

Summarize the degree of market penetration today; i.e., where is this solution installed today? **-NA-** *What number or percentage of federal agencies have adopted the standard?* **-NA-** *Is the standard used in other countries?* **-NA-** *Are there other relevant indicators of market acceptance?* **-NA-**

Appendix A

Information Exchange Requirements (IERs)

Information Exchange Requirement	Description of IER
Beneficiary Financial / Demographic Data	Beneficiary financial and demographic data used to support enrollment and eligibility into a Health Insurance Program.
Beneficiary Inquiry Information	Information relating to the inquiries made by beneficiaries as they relate to their interaction with the health organization .
Beneficiary Tracking Information	Information relating to the physical movement or potential movement of patients, beneficiaries, or active duty personnel due to changes in level of care or deployment, etc.
Body of Health Services Knowledge	Federal, state, professional association, or local policies and guidance regarding health services or any other health care information accessible to health care providers through research, journals, medical texts, on-line health care data bases, consultations, and provider expertise. This may include: (1) utilization management standards that monitor health care services and resources used in the delivery of health care to a customer; (2) case management guidelines; (3) clinical protocols based on forensic requirements; (4) clinical pathway guidelines; (5) uniform patient placement criteria, which are used to determine the level of risk for a customer and the level of mental disorders (6) standards set by health care oversight bodies such as the Joint Commission for Accreditation of Health Care Organizations (JCAHO) and Health Plan Employer Data and Information Set (HEDIS); (7) credentialing criteria; (8) privacy act standards; (9) Freedom of Information Act guidelines; and (10) the estimated time needed to perform health care procedures and services.
Care Management Information	Specific clinical information used to record and identify the stratification of Beneficiaries as they are assigned to varying levels of care.
Case Management Information	Specific clinical information used to record and manage the occurrences of high-risk level assignments of patients in the health delivery organization..
Clinical Guidelines	Treatment, screening, and clinical management guidelines used by clinicians in the decision-making processes for providing care and treatment of the beneficiary/patient.

Cost Accounting Information	All clinical and financial data collected for use in the calculation and assignment of costs in the health organization .
Customer Approved Care Plan	The plan of care (or set of intervention options) mutually selected by the provider and the customer (or responsible person).
Customer Demographic Data	Facts about the beneficiary population such as address, phone number, occupation, sex, age, race, mother's maiden name and SSN, father's name, and unit to which Service members are assigned
Customer Health Care Information	All information about customer health data, customer care information, and customer demographic data, and customer insurance information. Selected information is provided to both external and internal customers contingent upon confidentiality restrictions. Information provided includes immunization certifications and reports, birth information, and customer medical and dental readiness status
Customer Risk Factors	Factors in the environment or chemical, psychological, physiological, or genetic elements thought to predispose an individual to the development of a disease or injury. Includes occupational and lifestyle risk factors and risk of acquiring a disease due to travel to certain regions.
Encounter (Administrative) Data	Administrative and Financial data that is collected on patients as they move through the healthcare continuum. This information is largely used for administrative and financial activities such as reporting and billing.
Improvement Strategy	Approach for advancing or changing for the better the business rules or business functions of the health organization. Includes strategies for improving health organization employee performance (including training requirements), utilization management, workplace safety, and customer satisfaction.
Labor Productivity Information	Financial and clinical (acuity, etc.) data used to calculate and measure labor productivity of the workforce supporting the health organization.
health organization Direction	Goals, objectives, strategies, policies, plans, programs, and projects that control and direct health organization business function, including (1) direction derived from DoD policy and guidance and laws and regulations; and (2) health promotion programs.
Patient Satisfaction Information	Survey data gathered from beneficiaries that receive services from providers that the health organization wishes to use to measure satisfaction.

Patient Schedule	Scheduled procedure type, location, and date of service information related to scheduled interactions with the patient.
Population Member Health Data	Facts about the current and historical health conditions of the members of an organization. (Individuals' health data are grouped by the employing organization, with the expectation that the organization's operations pose similar health risks to all the organization's members.)
Population Risk Reduction Plan	Sets of actions proposed to an organization commander for his/her selection to reduce the effect of health risks on the organization's mission effectiveness and member health status. The proposed actions include: (1) resources required to carry out the actions, (2) expected mission impact, and (3) member's health status with and without the actions.
Provider Demographics	Specific demographic information relating to both internal and external providers associated with the health organization including location, credentialing, services, ratings, etc.
Provider Metrics	Key indicators that are used to measure performance of providers (internal and external) associated with the health organization.
Referral Information	Specific clinical and financial information necessary to refer beneficiaries to the appropriate services and level of care.
Resource Availability	The accessibility of all people, equipment, supplies, facilities, and automated systems needed to execute business activities.
Tailored Education Information	Approved TRICARE program education information / materials customized for distribution to existing beneficiaries to provide information on their selected health plan. Can also include risk factors, diseases, individual health care instructions, and driving instructions.